

**WHAT IS CLAIMED IS:**

1. An RF receiver apparatus, comprising:  
mixing circuitry for mixing an analog RF signal down to an analog IF signal;  
an analog IF-to-digital baseband converter coupled to said mixer for converting  
said analog IF signal into a digital baseband signal; and  
an output coupled to said analog IF-to-digital baseband converter for transmitting  
said digital baseband signal to a baseband processing apparatus that is a physically  
separate entity from said RF receiver apparatus.
2. The apparatus of Claim 1, provided as an integrated circuit.
3. The apparatus of Claim 1, wherein said analog IF-to-digital baseband  
converter includes an A/D converter for digitizing said analog IF signal to produce a  
digital IF signal, and a digital IF-to-baseband converter coupled to said A/D converter for  
converting said digital IF signal into a further digital baseband signal.
4. The apparatus of Claim 3, where said analog IF-to-digital baseband  
converter includes a filter coupled to said digital IF-to-baseband converter for filtering  
said further digital baseband signal to produce said first-mentioned digital baseband  
signal.

5. The apparatus of Claim 4, wherein said filter includes a decimator.
6. The apparatus of Claim 4, wherein said filter includes a quantizer.
7. The apparatus of Claim 3, wherein said digital IF-to-baseband converter includes a CORDIC circuit.
8. The apparatus of Claim 1, wherein said analog IF-to-digital baseband converter produces said digital baseband signal in parallel format, and including a parallel-to-serial converter connected between said analog IF-to-digital baseband converter and said output for converting said digital baseband signal from parallel format to serial format and providing said serial formatted digital baseband signal to said output.
9. A baseband processor apparatus, comprising:  
an input for receiving a digital baseband signal from an RF receiver apparatus that is a physically separate entity from said baseband processor apparatus; and  
a digital communication processing portion coupled to said input for performing a digital processing operation on said digital baseband signal.
10. The apparatus of Claim 9, wherein said input is for receiving said digital baseband signal in serial format, and including a serial-to-parallel converter connected between said input and said digital communication processing portion for converting said

digital baseband signal from serial format to parallel format and providing said parallel formatted digital baseband signal to said digital communication processing portion.

11. The apparatus of Claim 10, wherein said serial-to-parallel converter includes an input for receiving a clock signal from the RF receiver apparatus.

12. The apparatus of Claim 9, provided as an integrated circuit.

13. A communication receiver, comprising:

an RF receiver apparatus including mixing circuitry for mixing an analog RF signal down to an analog IF signal, an analog IF-to-digital baseband converter coupled to said mixer for converting said analog IF signal into a digital baseband signal, and an output coupled to said analog IF-to-digital baseband converter for outputting said digital baseband signal; and

a baseband processor apparatus having an input coupled to said output of said RF receiver apparatus for receiving said digital baseband signal from said RF receiver apparatus, and a digital communication processor coupled to said input for performing a digital processing operation on said digital baseband signal, wherein said baseband processor apparatus is a physically separate entity from said RF receiver apparatus.

14. The communication receiver of Claim 13, wherein said baseband

processor apparatus is provided as an integrated circuit.

15. The communication receiver of Claim 14, wherein said RF receiver apparatus is provided as an integrated circuit.

16. The communication receiver of Claim 14, wherein said baseband processor apparatus is a digital signal processor.

17. The communication receiver of Claim 13, wherein said RF receiver apparatus is provided as an integrated circuit.

18. A method of using an RF receiver apparatus, comprising:  
mixing an analog RF signal down to an analog IF signal within the RF receiver apparatus;

converting the analog IF signal into a digital baseband signal within the RF receiver apparatus; and

transmitting the digital baseband signal from the RF receiver apparatus to a baseband processor apparatus that is a physically separate entity from the RF receiver apparatus.

19. The method of Claim 18, wherein said transmitting step includes

transmitting the digital baseband signal in serial format.

20. A method of operating a baseband processor apparatus, comprising:

the baseband processor apparatus receiving a digital baseband signal from an RF receiver apparatus that is a physically separate entity from the baseband processor apparatus; and

performing a digital processing operation on the digital baseband signal within the baseband processor apparatus.

21. The method of Claim 19, wherein said receiving step includes receiving the digital baseband signal in serial format, and further including converting the serial formatted digital baseband signal into parallel format, said performing step including performing the digital processing operation on the parallel formatted digital baseband signal.